The Call Letter

January, 2023
Volume 49 #1

OUT WITH THE OLD YEAR

IN WITH THE NEW YEAR

The Northwest Vintage Radio Society

Post Office Box 82379 Portland, Oregon 97282-0379

The Northwest Vintage Radio Society is a non-profit historical society incorporated in the State of Oregon. Since 1974 the Society has been dedicated to the preservation and enjoyment of "Vintage Radio" and wireless equipment. Membership is open to all. The dues are $25.00 for domestic membership, due on January 1st of each year.

The Call Letter has been in print since 1974 and is a publication that informs members of the society's business and that supports the hobby of collecting, restoring and preserving vintage radios.

Society meetings are held the second Saturday of most months at the Abernethy Grange Hall at 15745 S. Harley Ave. in Oregon City, Oregon. They convene at or about 9:30 AM for the purpose of displaying radios, conducting Society business, and exchanging information. Guests are welcome at all public meetings and functions. Society functions include guest speakers, auctions, restoration classes, radio shows, and radio sales which are announced in the Call Letter and held in and around the Pacific Northwest.

With each issue of the Call Letter, we remember Jim Mason, a charter member of the society who remained active until his death in 1998. A generous bequest from Jim's estate ensures the vitality of the Northwest Vintage Radio Society, and continued publication of the Call Letter.

Society Officers

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Vice President Franklin Ouchida crazykeychains@gmail.com
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Radio Repair Mentors

These are willing to mentor small groups in Radio Restoration:

Blake Dietze	360 944-7172 Vancouver
Ed Tompkins	360 635-2489 Vancouver

Vice President Notes

From Franklin Ouchida

Featured radios are those brands, types, or models that conform to an item in their name: for instance a radio brand starting with an "R" would fit the bill for the R feature, just like a "01A" tube would fit the requirement for an "A" or a "1" feature.

The featured radios for our 2023 meetings will be:

- January "1" or one tube radios
- February "2"
- March "3"
- April -- none swap meet
- May "4"
- June"5"
- July none picnics
- August "6"
- September -- none swap meet
- October "7"
- November "1923 radios "
- December -- none Christmas party

President's Message

By Pat Kagi, President

2022 is over and we now are looking forward to 2023. The question now is what do we want for 2023? What did we accomplish in 2022 that we want to continue on and what was missing? Anyone that has any comments or suggestions can contact any board member by calling them or emailing them directly. Their contact information is always in the Call Letter. This valuable information will help determine the direction of our society. We are all here, eager to serve you.

We also have new members and I would encourage them and anyone else that if they have any technical questions or parts requests to send an email to NWVRS@googlegroups.com. This will contact any member with an email address and often times we have lively and informative conversations.

This year I would like to see our club involved in more public outreach projects and also more social events such as the return of Open Homes.

There will be no auctions at the January 14th meeting, but there will be a special auction at the Abernethy Grange on Saturday, January 21st. There are many interesting items to bid on with no reserves and no buyers fees.

Don't forget to pay for your membership as they are due January of each year. It is $25.00 for a regular membership and $20.00 if you want the electronic version of the Call Letter. To make it easy, you can pay via PayPal, using the family and friends option.

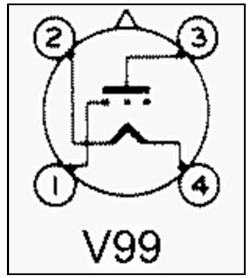
NOTE: Help make The 50th Anniversary of NWVRS special! We need your opinion on this momentous anniversary. Please join the 50th anniversary committee.

Pat

Tube of the Month - UV199

From Mike McCrow

The first development of the UV199 Detector-Amplifier in 1921 was a double ended envelope with no base. The anode wire at one end and the grid and filament wires at the other. By June and July of 1922 the first prototype tubes were developed. Manufactured by GE and used a thoriated filament. The finished product was not available until 1923. That caused the Radiola II and IV to be delayed until tubes were available.



The UV199 uses a unique small 1" base that had almost never been used before. The only other tubes that had it were the de Forest DV3A and Western Electric 230D. The UV199 was primarily made for use in portable receivers however it was in some home sets as well. Originally the UV199 had 3.0 Volt Filament. After one year it was increased to 3.3 volts at .06 amps. Plate voltage is 90 volts max at 2.2 ma. Grid voltage is -4.5. The early tubes of 1923 had tipped glass and a brass base. By 1924 tubes did not have a tip and had a Bakelite base.

Tubes made by General Electric were branded RCA. RCA had no tube manufacturing facilities until 1930, then under Radiotron Inc.

After introduction of the UV199 many other companies produced the tube under a variety of numbers such as V199, 199V, 99UV, and 199. The UV199 had to be produced for older sets and adapters were made so the tube could be inserted in the larger UV or UX socket. With the introduction of the RCA 230 and 231. The older 1" diameter base was increased to 1 1/8" diameter in 1932 and the tube now has a shoulder glass bulb and was named V99 and X99.

Transistor Radio Collector

Exceptional Early American AM Transistor Radios

The third in a series by Jeff Hutchinson

From my first transistor radio, a small GE P1710A pocket radio in the 1960s, I have always loved the genre. Now almost 60 years later, I have collected and restored many vintage transistor radios that I could only dream of owning as a child and teenager. Most of those early transistors were either American-made or coming from Japan as imports. When production shifted to Hong Kong and other Asian factories the quality fell along with the components. In this series of articles, I have focused on some exceptional American-made radios that impress me with their sound quality, DX capability and overall build quality.

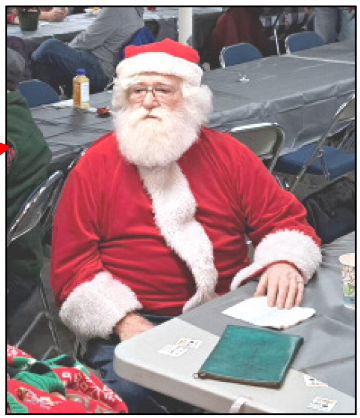
This is the third in the series and I'm looking at the
Motorola 8X26 Coat Pocket Radio

You really need a BIG coat pocket to carry this one around. In 1959, Motorola sold the Model 8X26 “Dragoon” transistor radio using the unique Motorola two-sided “PLAcir” printed circuit board. The radio chassis had 8-transistors (Motorola branded), tuned RF stage, 3 1/2” Alnico Golden Voice speaker and Vernier tuning. It is powered by 4 “AA” batteries and had an optional cowhide leather case.

DRAGOON
ALL-TRANSISTOR PORTABLE
New 8-transistor plus 2 germanium diode chassis makes this the world's most powerful pocket radio. Gives you 5 times more sensitivity, 9 times more selectivity, 30% more audible volume. Break-resistant cabinet comes in Maple Sugar or Charcoal, with gold-finish dial and trim. Earphone jack.
MODEL 8X26
$54.95
(Plus Batteries)
Model 8X26

It is a great DX grabber with exceptional sensitivity. The speaker audio is a bit on the treble side but not bad (compared to the Zenith 500H). It is a large somewhat bulky pocket radio in a league of its own. It was offered in charcoal or maple sugar colors. Motorola ads bragged that the Dragoon was the most powerful transistor pocket radio ever made. Just a restoration warning – replacing components and/or recapping a PLAcir PCB is not recommended for beginners.
[photos by the author]

Member Mel Sutton signing autographs as Santa at the NWVRS Christmas Party
(The whiskers are really his)



Letter to the editor:

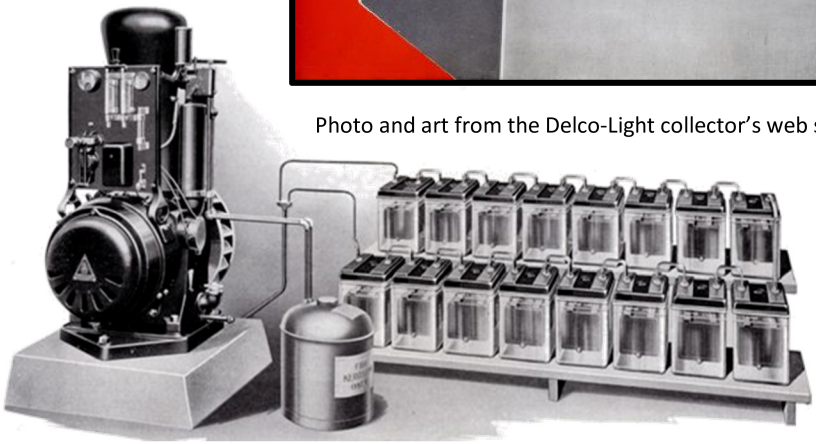
A reader's follow-up to John Cushing's article on Farm Radios last month.

From Richard Kuberski

I have one quick story about the light plant. My grandmother had a washing machine with a gas engine on it. When they got the light plant they put an electric motor on it, however it took all the power the light plant could produce to run that motor.

The light plant was for the barn, to run the vacuum pump for the milking machine, lights in the house were a bonus.

Photo and art from the Delco-Light collector's web site.



Memories from Christmas 2022

The Grange: the scene of the party - (photo by Sonny Clutter)

The Kitchen: the center of discussion - (photo by Sonny Clutter)

The Ugly Sweater contest ? - (photo by Sonny Clutter)

100 Years Ago

From **Radio News Jan 1923**

The A.C. Line as a Source of Current for the Vacuum Tubes

By R. Barthelemy

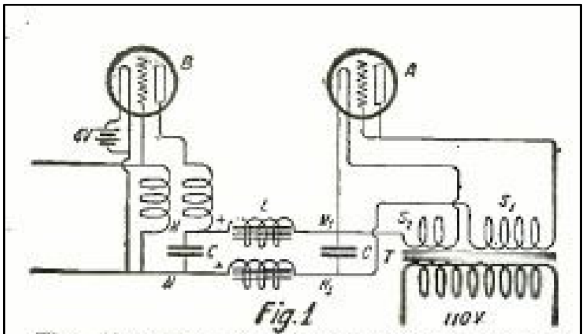


Fig. 1

The Alternating Current is Rectified by the Tube "A" and Fed to the Plate of Tube "B". The Winding S_2 Supplies Current for the Filament of the Rectifier Tube.

ONE of the drawbacks of the vacuum tube sets is the use of storage batteries for lighting the filaments and dry cells to furnish the necessary high tension for the plates of the tubes. With the increasing popularity of radio and the great number of receiving sets now in use, the possibility would be desirable of using the current from the light line to supply the radio receiver in the home. A great many attempts have been made along this line; some have tried to use ' the current from the D. C. line to supply both filaments and plates, others have tried the more difficult problem of utilizing the A. C. for the same purpose. Since 1919, Mr. Valette has used a system which permits the use of A.C. for the plates. Several radio frequency amplifiers of both three and four tubes were installed and successfully operated.

Fig. 1 shows the circuit which comprises a small transformer, T, and a rectifying tube which is of the standard type, A. The step-down transformer has two secondary windings, S1 and S2, furnishing the filament current for the rectifying tube and the plate current for the amplifying tube. A filter system composed of iron choke coils and condensers of the proper values, smooth out the hum and furnish current which is sufficiently constant to prevent any noise being heard in the telephone receivers. This was the first successful system utilized. In 1919, they had taken a patent in the

name of the "Societe Independante de T. S. F." on a system to light the filament of the tubes with A. C. In order to reduce to a minimum the noise caused by the A. C., the return from the circuit is made not to one leg of the filament, but to a center tap taken on a potentiometer or similar system. As shown in Fig. 2, the center tap may also be taken on the secondary winding of the transformer supplying the filament current. Sometime later, M. Moye, described his ingenious system consisting of the use of a crystal detector for rectification after the signals have been amplified through a radio frequency amplifier supplied entirely by A. C. Quite a few amateurs have built and used some amplifiers supplied from the light line and found that fair results could be obtained. We say fair results because when a vacuum tube receiver is entirely supplied with A. C. it becomes difficult to get maximum amplification by the feedback system, because', when the tickler is turned, the noise increases in a great pro- portion as one reaches the point where the oscillations start. When regeneration is minimum, one notices a low frequency modulation of the signals received and also the hum caused by the machine which increases in intensity to such an extent that signals are almost inaudible. Therefore, in order to receive the signals, especially telephony without any trouble or interference caused by the supply, it is necessary to operate the tubes with a low degree of efficiency, since it is not possible to increase the feed -back action very much. This is, of course, a solution, but not the best.

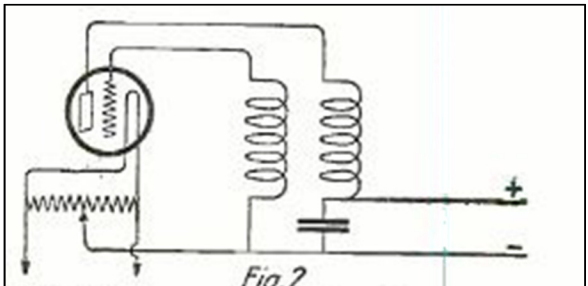


Fig.2

This Circuit was Found Practical in Using A.C. Filament Lighting. The A.C. Hum is Decreased to a Considerable Degree.

Recently, the Societé Ducretet, during some researches carried out along this line, found that it was possible to secure very good operation from A.C. by means of a special tube which will be described later. They noticed that when an ordinary vacuum tube was connected in such a circuit as Fig. 3, some noise was still

noticeable in the telephones. Since there is no low frequency induction in such a system, the source of the trouble was found to be caused by the variation of temperature of the filament during one cycle. If, in such a set, the feedback coil is brought closer to the grid coil, increasing the regenerative effect, a strong roar becomes audible. It is caused by the variation of temperature of the filament, which is amplified in the same proportion as the signals but is of course, very much stronger. It is well-known that the temperature of the filament acts upon the stability of the tube and upon its point of oscillation. If the temperature of the filament is kept sufficiently low, little trouble is experienced, but if it is increased up to a certain limit, it happens that when the temperature becomes maximum at the peak of 'a cycle, oscillation starts. aid produces a heterodyne effect which is difficult to overcome. The noise heard in the telephones corresponds to a signal covered by strong I. C. W.

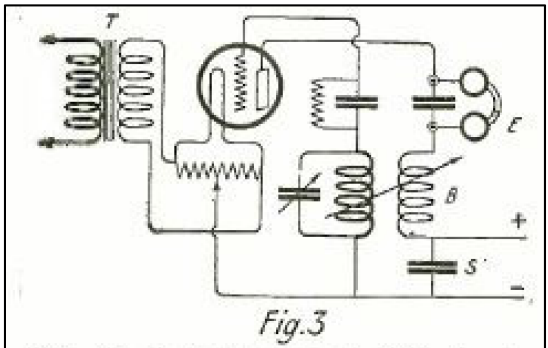


Fig.3

This Circuit Incorporates the Potentiometer Method of Decreasing the Hum, Together with a Filter System in the Grid Circuit.

After observing this, the experimenters tried several tubes with two filaments supplied by A. C. and various frequencies. A tube was even tried with two-phase current, and high frequency currents were also tried in an endeavor to reduce the noise. I

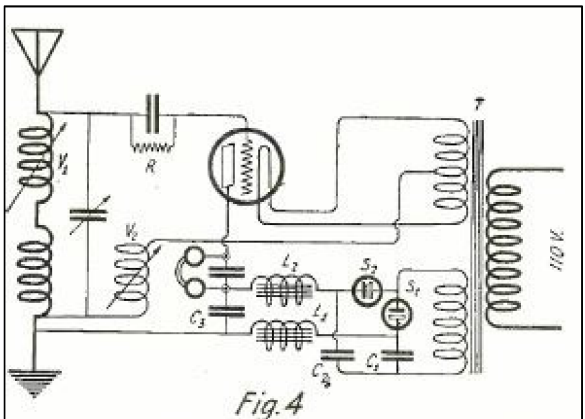


Fig.4

In This Circuit A.C. is Used for Both Filament and Plate Supply. The Supply for the Plate is First Rectified and then Smoothed Out by Condenser and Chokes.

However, the best solution found so far consists in the use of a tube, the filament of which is of a sufficient size to remain practically at the same temperature during the interval between the peaks of the cycles.

With such a tube, no more low frequency noise is heard, but only an extremely faint buzz which is absolutely negligible and which does not cause any trouble even when receiving long distance stations, the signals of which are of a low audibility. It permits also a turning of the feedback coil so as to obtain maximum regeneration without having the trouble previously mentioned.

Thanks to these tubes, it has been possible to design a receiver entirely supplied with A. C. The circuit is shown in Fig. 4. As may be seen, it is a very simple receiver, designed for popular use, for the reception of broadcasting stations, only those two controls being required. The set itself is composed of two units, one containing the receiver proper with the tube, and the other containing the transformer, filter system and two small electrolytic rectifier cells. Such a receiving set will soon be the forerunner of the series, the second unit of which consists of an audio frequency amplifier, also supplied with A.C.

Fig, 5 shows the circuit of a one–stage audio frequency amplifier with the filament of the tubes lit with A. C. The two tubes are mounted in parallel in a pull -push fashion with two amplifying transformers fitted with taps in the middle of the windings. The connections are such that an oscillation makes the grid, G, positive and G1, negative. This results in increasing the plate current of one tube and decreasing the plate current in the other. If these two plate currents pass through the primaries of Pl and P2 of the second

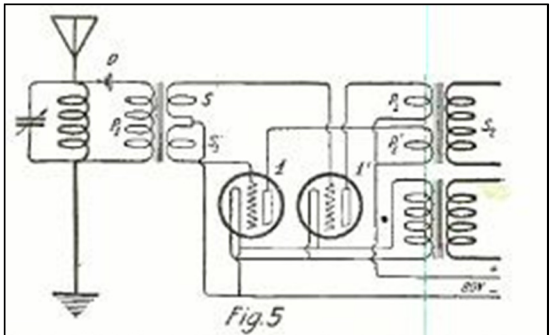


Fig.5

The Incoming Signals are Rectified by a Crystal Detector and Amplified by the Two Tubes. A.C. is Used for Filament and Plate Supply.

transformer so that the oscillation in the secondary is the result of both plate currents added, the system still functions as an ordinary audio frequency amplifier. To accomplish this, it is necessary to oppose the two flux produced by the D.C. current in the plate circuits. If the same type of tube is used for 1 and 2 of the same size of primaries, the resulting flux is zero. Therefore, if the plate currents are altered, in the same way, by the A. C., for instance, the resulting flux remains zero. Under these conditions no electrical force is induced in the secondary, S2, but only oscillations which are to be amplified. In fact, the oscillations caused by the signals add to each other in the secondary, S2 while the extra oscillations produced by the A.C. current from the main, subtracts from each other.

It is possible to use a second stage of amplification by using two more tubes connected in the same way. However, it should be remarked that four tubes are necessary to produce the same results as a 3-tube audio frequency amplifier of the standard type.

Before concluding, we wish to mention a system also developed by Mr. Valette, which cuts out entirely the roar caused by the machine whether damped or undamped waves are received in the regenerative circuit. Some amplifiers, with three and five tubes which were tried with this system, gave a perfect amplification whether receiving C.W. or spark. The process consists of producing in the receiver very strong oscillation of high frequency, but quite different from that of the signals.

To sum up, it seems that the real solution of the use of A.C. line for supplying vacuum tube receivers and amplifiers is near. It is hoped that within a few months we shall see the ideal receiver equipped with a plug which will be inserted in the lamp-socket in the same way as any other electrical appliance, rendering the radio receiver really practical for everybody.

The Editor has his say . . .

There is now an expanded ***Call Letter***. The PLUS pages are those extra pages that go out via email, expanding the publication to sometimes twice its printed size. These Plus Pages have become very popular and I often have more material than I can use. As you wait for the articles that you have submitted to appear, thanks for being patient.

Also I'd like to know what you'd like to see in the PLUS PAGES? I'd like to hear from you. Don't send it to the email loop. Sent it to the editor! Email me with *Call Letter* in the subject line at relivingradio@karmans.net.

As we look to a new year, be thankful that our organization is still healthy, and that our publication has grown back to being a reputable voice expounding and promoting the Society.

New Services-

Email your WANT ads or your For Sale ads to the editor at Relivingradio@karmans.net. Include some verbiage and a photo of specifically what you are selling or what you are looking for. Include your contact information. An enlarged SWAP Shop page will appear in the PLUS pages of the Call Letter about 6 times each year and your ad will be a part of it.

If you are sight impaired, or have difficulty reading the Call Letter, contact the Editor or a Board member and we will email an audio copy of the most recent Call Letter (with PLUS pages) to you. The audio copy will not be recorded until after the US mail edition is sent out to lessen the work load of those first few weeks of each month.

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